Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of: **INTELSAT LLC** Amendment to Application to Modify Authorizations to Operate, and to Further Construct, Launch, and Operate C-band and Ku-band Satellites that Form a Global Communications System in Geostationary Orbit	**File Nos. SAT-A/O-20000119-00015; SAT-MOD-20040730-00152**

Amendment to Application of Intelsat LLC To Modify Authorization

Intelsat LLC ("Intelsat") hereby submits the following request to amend the pending application for modification of its space station authorization for INTELSAT 706 ("Modification Application"), submitted on July 30, 2004. The Modification Application sought Commission approval to relocate INTELSAT 706 from 53.0° W.L. to 50.25° E.L. and operate there in C- and Ku-band. This amendment provides clarifying and additional information requested by the Commission in a letter dated August 31, 2004 ("Letter").[1]

In response to numbered paragraph 1 in the Letter, Intelsat hereby amends the Modification Application on pages 3 and 4 to clarify that Intelsat has entered into

[1] *See* Letter from Robert Nelson, FCC, to Patrick J. Cerra, Intelsat LLC, File No. SAT-MOD-20040730-00152 (dated Aug. 31, 2004).

agreements with the operators authorized by Thailand and Turkey, not with the Administrations of Thailand and Turkey. The amended paragraph thus reads:

> "At the 50.25º E.L. location, Intelsat seeks to operate INTELSAT 706 in accordance with the Turkish Administration Ku-band ITU filings at 50.0º E.L. and Thai Administration C-band ITU filings at 50.0º E.L. and will submit to the FCC relevant agreements with the operators authorized by Turkey and Thailand shortly. As the Commission is aware, Intelsat currently has an FCC authorization subject to certain conditions and operates INTELSAT 602 at the 50.5º E.L. location under agreements with the operators authorized by Thailand and Turkey. Intelsat agrees to operate INTELSAT 706 at 50.25º E.L. subject to similar conditions, within the limits of the agreements with the operators authorized by Turkey and Thailand and within the coordination agreements that Turkey and Thailand have reached with other Administrations."

In response to numbered paragraph 2 of the Letter, Intelsat provides the specific bands it intends to operate on INTELSAT 706 at 50.25º E.L below:

C-band:	3700-4200 MHz (space-Earth); 5925-6425 MHz (Earth-space)
Ku-band:	10.95-11.25 GHz, 11.45-11.7 GHz, 11.7-11.95 GHz and 12.5-12.75 GHz (space-Earth); 14.00-14.5 GHz (Earth–space)

In response to numbered paragraphs 3 and 4 of the Letter, Intelsat provides the following clarification. In a previous grant, the FCC authorized Intelsat to operate INTELSAT 602 at 50.5º E.L. under eight specific conditions contained in the Attachment to the grant.[2] These eight conditions are the conditions Intelsat referred to on pages 3 and 4 of the Modification Application. Intelsat does not contemplate a substantive change to those conditions, other than nomenclature &/or bands listed, and does not object to authorization on a non-interference basis.

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[2] *See* Public Notice, *Policy Branch Information, Actions Taken,* Rept. No. SAT-00178 (Nov. 18, 2003) (File No. SAT-AMD-20030822-00160; grant of authority to allow Intelsat 602 to operate at the 50.5° E.L. location with conditions).

In response to numbered paragraph 5 of the Letter, Intelsat explains, in the attached document, the interference situation and the methods it intends to employ to avoid harmful interference to other operating satellites. To the extent necessary, Intelsat requests a waiver of the interference analysis requirements of Section 25.140(b) of the Commission's rules.[3]

All other information provided in the Modification Application remains unchanged.

Respectfully submitted,

Intelsat LLC

By: */s/ Patrick J. Cerra*

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[3] 47 C.F.R. §25.140(b).

Proposed operation of 706 at 50.25E

1. Intelsat has been operating 602 at 50.5E in accordance with an FCC order for more than one year.

2. As a matter of operational necessity, driven by commercial considerations, Intelsat has decided to redeploy 706 to replace 602 and operate it at 50.25E. (706 has more Ku-band and less of C-band – so it minimizes the spectrum overlap with Yamal.)

3. Just as 602 was operating against the Thaicom filings in accordance with the coordination agreements reached by Thailand with other Administrations of adjacent operating satellites, 706 operations at 50.25E will also respect all such coordination agreements that Thailand has entered into for their 50.5E filings and Turkey has entered into for their 50.0E filings.

4. The bilateral coordination agreements reached by Thailand and Turkey with other Administrations are confidential documents and even we are given only a summary of the summary records.

5. The coordination between Thailand and Russia has been completed with tighter numbers for co-frequency, co-coverage, co-pol operations with a proviso that operator level discussions could relax these numbers.

6. These operator level discussions between Shinsat and Gascom, the Yamal operator, are continuing. Intelsat has been providing technical support to Shinsat for such discussions.

7. In the meantime, both Yamal and 602 have been satisfactorily operating with 602 using the numbers agreed between Intelsat and Shinsat – which are better than the numbers referred to under (5) above. The details of operational carrier parameters of both Intelsat and Yamal networks have been exchanged between Shinsat and Gascom.

8. With the deployment of 706 at 50.25E we will further minimize the overlapping spectrum with Yamal. In the overlapping transponders we will ensure that the operations will be such that the level of interference caused to Yamal carriers from 50.25E would be the same as that from 50.5E.

9. The required reduction in power input to an Intelsat earth station antenna would be driven by the loss of discrimination in going from 1.5 degree to 1.25 degree separation. The following table gives this for various antenna sizes.

Antenna diameter (m)	Off-axis gain for 1.5° (dB)	Off-axis gain for 1.25° (dB)	Difference (dB)
2.4	31.8	33.7	1.9
3.5	28.2	32.4	4.2
4.5	23.5	28.9	5.4
5.0	24.3	26.4	2.1
5.5	24.3	25.6	1.3
5.9	24.3	26.4	2.1
6.5	24.3	26.4	2.1
7.4	24.3	26.4	2.1
10.0	24.3	26.4	2.1

Similar reduction will be required for the Intelsat satellite downlink carrier levels depending on the Yamal receive earth station antenna size for the overlapping carrier.